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CLAIMS

What is claimed is:

1. Optical apparatus comprising:

a pump guiding fiber comprising a fiber cladding, a fiber core and an attachment section, said attachment section comprising a straight core section and a tapered core section; and

a receiving fiber comprising an inner clad to which said attachment section is attached.

2. Apparatus according to claim 1, wherein a ratio between a minimum cross section area of the tapered core section and said straight core section is in a range from 0.01 to 0.5.

3. Apparatus according to claim 1, wherein said pump guiding fiber is optically attached at one end thereof, opposite to said attachment section, to a pump source.

4. Apparatus according to claim 3, wherein said pump source comprises a semiconductor diode laser.

5. Apparatus according to claim 1, wherein a divergence angle of light in said pump guiding fiber  $\alpha_s$ , and a light acceptance angle of said inner clad of said receiving fiber,  $\alpha_f$ , may satisfy the following relation:

$$\alpha_f = k \cdot \alpha_s$$

wherein k is a constant equal or smaller than 1.

6. Apparatus according to claim 1, wherein said receiving fiber comprises a double clad fiber.

7. Apparatus according to claim 6, wherein said double clad fiber comprises a protective outer jacket, an outer clad, an inner clad and a doped core.

8. Apparatus according to claim 7, wherein said doped core comprises a rare-earth doped core.